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| 10/502,243 | 03/21/2005 | Jochen Dieter Mannhart | ABACP0111US | 5399 |
| 43076 7590 09/20/2007 MARK D. SARALINO (GENERAL) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE, NINETEENTH FLOOR CLEVELAND, OH 44115-2191 | | | | |
| EXAMINER VIJAYAKUMAR, KALLAMBELLA M | | | | |
| ART UNIT 1751 | | PAPER NUMBER | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/502,243

Applicant(s)

MANNHART ET AL.

Examiner

Kallambella Vijayakumar

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,11-20 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 8,10 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Detailed Action

- This application is a 371 of PCT/IB02/00584 filed 02/21/2002.
- The preliminary amendment filed 07/22/2004 has been entered.
Claims 1-25 are currently pending with the application.
- The examiner has considered the IDS filed 07/22/2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 3-5, 7, 9, 11-14, 17-20, 22 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by Belenii (US 6,387,525).

The examiner makes of record that instant claims 1-2, 5-6, 21-23 and 25 recite a broad range of components followed by a series of narrow ranges. For examination purposes, the examiner asserts that the narrow ranges recited in instant claims 1-2, 5-6, 21-23 and 25 are merely exemplary ranges, and thus, the prior art will be applied against the broadest ranges recited in instant claims 1-2, 5-6, 21-23 and 25. Furthermore, the examiner suggests that applicant should delete the narrow ranges from instant claims 1-2, 5-6, 21-23 and 25, and add new dependent claims that recite the narrow ranges recited in

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instant claims 1-2, 5-6, 21-23 and 25. The limitation of "preferably" makes the component optional, and the Language that suggests or makes optional but does not require steps/components to be performed/ included or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

The prior art teaches a superconductor article with an architecture comprising two superconductor tapes joined together forming a coil (Figs-2, 3). Each of the two superconductor tapes (14) comprised of a conductive layer (13), an insulating layer (17) <Substrate> and a superconductor layer such as YBCO (19) <Fig-1a, 2>. The superconductor article was made contacting superconducting layers 19 and 21, whose contact with each other was throughout the pancake coil of the article and this meets the limitation of the structure and the ratio limitations in claims 1, 3, 5, 9 and 19-20 (Fig-1-5; CI-4, Ln-65 to CI-5, Ln 7; CI-5, Ln 27-30, 45-49; CI-6, Ln 19-32). With regard to claim-4, the prior art teaches winding the coil and annealing it (CI-6, Ln 15-19). The alignment of the grains over the substrate per claim-7 is anticipated over annealing the precursor forming the superconductor. With regard to the method of joining and fabricating the superconductor layers in the article in claims 11-14 and 17-18, the examiner asserts that the prior art article will be either same or substantially same as that obtained by the claimed joining/fabrication methods. With regard to the method claims 22 and 25, the prior art teaches forming the superconductor layers on both sides of the support and joining them together forming a multilayered coil. All the limitations of the instant claims are met.

The reference is anticipatory.

2. Claims 1, 4-5, 7, 9, 11-20, 22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Malozemoff et al (WO 01/08169).

The prior art teaches coated conductor comprising two superconductor elements sandwiched in face-face configuration (Fig-6), wherein the abutting superconductor layers form the structure. Each of the two elements (31a, 31b) contain a substrate (32a, 32b), a buffer layers (34a, 34b), a HTS superconductor layer such as YBCO (36a, 36b), capping layers (31a, 31b) <intermediate layer> forming the interface

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(37) (Fig-6, Pg-33, Lines 8-15) <Abstract, Pg-25, Ln 20; Pg-30, Ln 29-Pg-32, Ln 19, Pg-33, Ln 8-15; Pg-34, Ex-1 and Pg-37, Ex-2). The structure in the Figures 4 and 6 meet the ratio limitations in the claims. With regard to claim-4, the prior art teaches fold over configuration of the coated conductor (Pg-37, Ex-2). The alignment of the grains over the substrate per claim-7 is anticipated over annealing the precursor forming the superconductor. With regard to the method of joining and fabricating the superconductor layers in the article in claims 11-14 and 17-18, the examiner asserts that the prior art article will be either same or substantially same as that obtained by the claimed joining methods. With regard to claims 15-16, the prior art teaches the capping layer containing the grains of the component/s. With regard to the method claims 22 and 25, the prior art teaches forming the superconductor layers the supports and joining them together forming a multilayered article. All the limitations of the instant claims are met

The reference is anticipatory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

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Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 2, 6 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belenii (US 6,387,525).

The disclosure on the structure and making of superconductor article as set forth in rejection-1 under 35 USC 102(e) is here in incorporated.

The prior art is silent about the length of the coil.

However the prior art teaches making a coil and where in the dimensions of the tape are variables and, Generally, differences in concentration or temperature or length or width will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature or length or width is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Allowable Subject Matter

Claims 8, 10 and 21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record neither teaches or fairly suggestive of the aspect ratio of the grain size or a heterostructure with at least one doping film or a superconductor structure per claim 21.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on 8.30-6.00 Mon-Thu, 8.30-5.00 Alt Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on 571-272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KMV
Sept 17, 2007.


DOUGLAS MCGINTY
SUPERVISORY PATENT EXAMINER

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